

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 18-19, 2014
Agenda Item 17(f)

Applicant: Colorado River Water Conservation District

Water Activity Name: No Chico Brush Agricultural Water Research Project

County: Montrose

River Basin: Gunnison

Water Source: Uncompahgre and Gunnison Rivers

Amount Requested: \$35,000 from the Gunnison Basin Account, and (delayed) \$55,000 from the Statewide Account.

Matching Funds: \$16,000 in-kind match CRWCD (5% of total project costs), \$59,000 cash match Trout Unlimited and The Nature Conservancy (20% of total project costs), \$180,000 cash match unspecified grant requests (43% of total project costs), Total Project Costs Match = 88%

Staff Recommendation:
Staff recommends approval of up to \$35,000 from the Colorado Basin Account for the project titled: Colorado River Water Conservation District - No Chico Brush Agricultural Water Research Project

Water Activity Summary: WSRA Grant funds will be expended to perform farmer-led research on irrigation practices that will provide important information for both improved agricultural operations and future water use challenges in the Basin. To accomplish this, the project will compare furrow irrigation to overhead sprinkler, drip, and big gun irrigation systems in order to address the following water supply and water quality questions:

- How much water do these different irrigation systems currently “use” or need for the same crop type?
- What is the actual water demand for these crops?
- What is the application efficiency of these different irrigation systems? How much water is applied to the crop and at what times, compared to actual crop demands throughout the growing season?
- How much water returns to the system from the farm as either surface run off or deep percolation? What is the quality of water returning to the system in terms of salinity, selenium, nutrients and sediment?
- How much irrigation water can be saved by converting on-farm irrigation from open furrow or flood irrigation methods to systemized irrigation?
- What are the yield differences between the four irrigation methods? (comparing similar fields and soil types)

Project proponents wish to answer the question of what are the effects of on-farm and system wide improvements on other water demands.

- How would large scale changes affect water quality in the Gunnison River?
- How can on-farm data help farmers improve their water use?

- What other benefits occur as a result of improved efficiency?
- What types of incentives need to take place to expand irrigation efficiency projects?

The objective of this project is to complete irrigation related research in the Gunnison Basin from an on-farm level to identify how to best improve agricultural water use and management. Increasing agricultural efficiency has been identified by many as the most cost effective method of addressing ag water shortages and has also been linked to addressing non-consumptive needs while improving water quality by reducing salt and selenium discharges from inefficient applications. This research project will help guide and implement efficiency projects by increasing knowledge about agricultural demands and what happens to water on the farm, as such, water managers and farmers will be able to make more informed decisions about water and crop management. No Chico Brush will use the data gathered to help educate and inform irrigators and water managers.

Threshold and Evaluation Criteria:

The application meets all four Threshold Criteria.

Funding/Match Summary:

<u>Funding Source</u>	<u>In-Kind</u>	<u>Cash</u>	<u>Total</u>
Colorado River Water Conservation District	\$16,000	\$0	\$16,000
Trout Unlimited & The Nature Conservancy	\$0	\$59,000	\$59,000
Unspecified grant requests	\$0	\$180,000	\$180,000
WSRA Colorado Basin Account	\$0	\$35,000	\$35,000
Total	\$16,000	\$274,000	\$290,000

Discussion:

The No Chico Brush Project applicants initially submitted a WSRA Grant request for \$35,000 from the Gunnison Basin Account funds, and \$55,000 from the Statewide Account funds, however due to an anticipated WSRA Statewide Account shortfall, and the potential for a future CWCB Alternative Agricultural Water Transfer Methods Grant submission, the applicant has agreed to delay or withdraw their Statewide Account request. Discussion between the applicant and CWCB staff has determined that the application may meet the Alternative Agricultural Water Transfer Methods Criteria and Guidelines, of which the applicant may submit a grant request in the near future to replace the foregone Statewide Account request.

Issues/Additional Needs:

No additional issues or needs were identified.

Staff Recommendation:

Staff recommends approval of up to \$35,000 from the Gunnison Basin Account for project titled: Colorado River Water Conservation District - No Chico Brush Agricultural Water Research Project.

All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform. In accordance with the revised WSRA Criteria and

Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

Reporting and Final Deliverable: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues. At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

Engineering: All engineering work (as defined in the Engineers Practice Act (§12-25-102(10) C.R.S.)) performed under this grant shall be performed by or under the responsible charge of professional engineer licensed by the State of Colorado to practice Engineering.